HEALTH POLICY BRIEF

RHODE ISLAND DEPARTMENT OF HEALTH

Seatbelt Use in Motor Vehicle Crashes: Rhode Island, 2001

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Safe and Healthy Lives in Safe and Healthy Communities

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Introduction

In the past thirty years, improved vehicle and road design and the use of child safety seats and seatbelts have reduced the number of deaths from motor vehicle crashes nationally.[1] However, motor vehicle crashes continue to result in a heavy toll of injury and death in the United States, and rates of death have not improved in Rhode Island, recently. Unintentional injuries are the leading cause of death for young Americans ages 1-34, with motor vehicle crashes the cause of more than 7 out of 10 of those injury deaths in 2001.[2]

Reducing injury from motor vehicle crashes and increasing the use of seatbelts are among the Healthy People 2010 Health Objectives for the Nation [3] and the state.[4] Seatbelts have been shown to protect motor vehicle drivers and passengers from serious injury and death in crashes. The use of seatbelts (measured by observation) exceeded 70% in RI for the first time in Spring 2002 but still lags behind the national average of 75%.

Seatbelts make a difference for drivers and passengers who use them

Seatbelts hold the users in place during a crash, reducing the force of impact with interior surfaces of the vehicle and preventing occupants from being thrown from the vehicle. In Rhode Island motor vehicle crashes in 2001, occupants who did not use seatbelts in crashes had a much higher risk of being killed or severely injured than those wearing seatbelts.

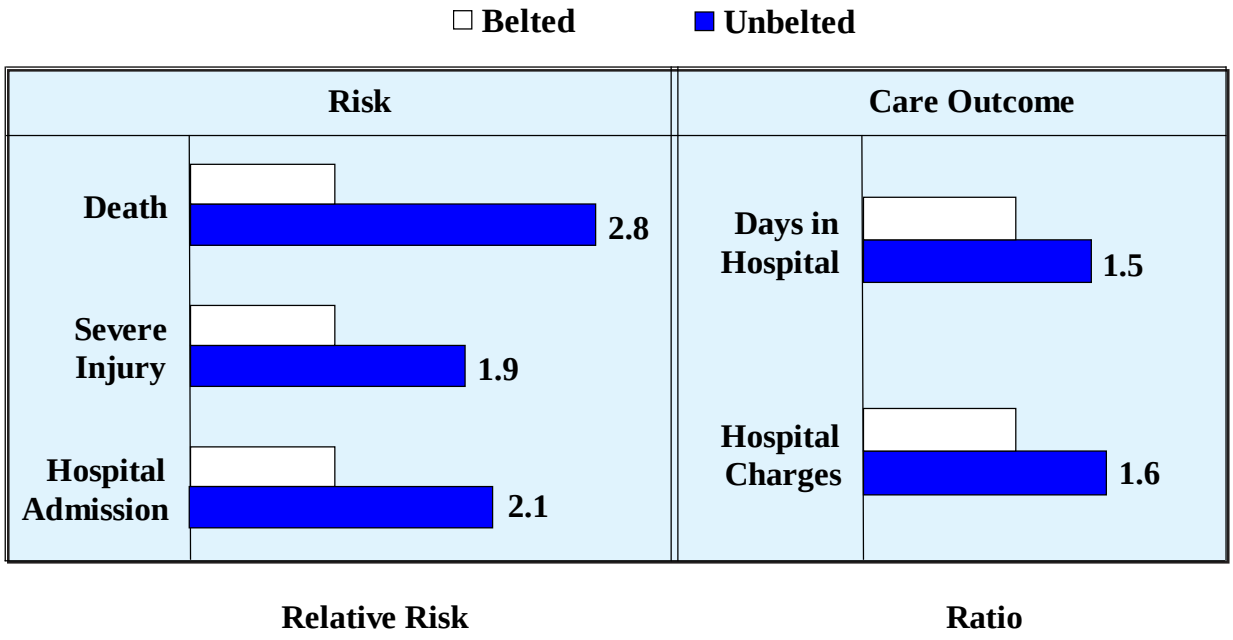

Figure 1. *Relative risk of death, severe injury and hospital admission by seatbelt use and the ratio of hospital charges and length of stay by reported seatbelt use in crashes, Rhode Island 2001. [For all measures, the value for belted occupants is 1.0.]*

In 2001, Rhode Island police completed crash reports on 98,000 occupants of motor vehicles equipped with seatbelts. Police were almost twice as likely to report severe injuries in crash reports for occupants who were not wearing seatbelts. Those not wearing seatbelts were almost three times as likely to be killed in a crash. Among crash victims transported to the hospital by ambulance, unbelted occupants were twice as likely to be admitted to the hospital as inpatients. Their hospital stays were fifty percent longer and their hospital charges averaged sixty percent more than hospitalized crash victims reported to be wearing seatbelts.

Younger motorists are more at risk

The increased risk of injury and death due to failure to wear a seatbelt is even greater for young people aged 13 to 24 years. The risk of death for unbelted young occupants was four and a half times that for young people who wore seatbelts in crashes in 2001. In 2001, almost half of young men who were occupants in crashes were not reported to be wearing seatbelts. Fourteen of sixteen (87.5%) males aged 13 to 24 who were killed in crashes in Rhode Island in 2001 were not wearing seatbelts.

Seatbelt use actually declines from the youngest driving age into the early twenties. This decline is seen more in males than in females. Young adult males are the group least likely to be wearing a seatbelt in a crash.

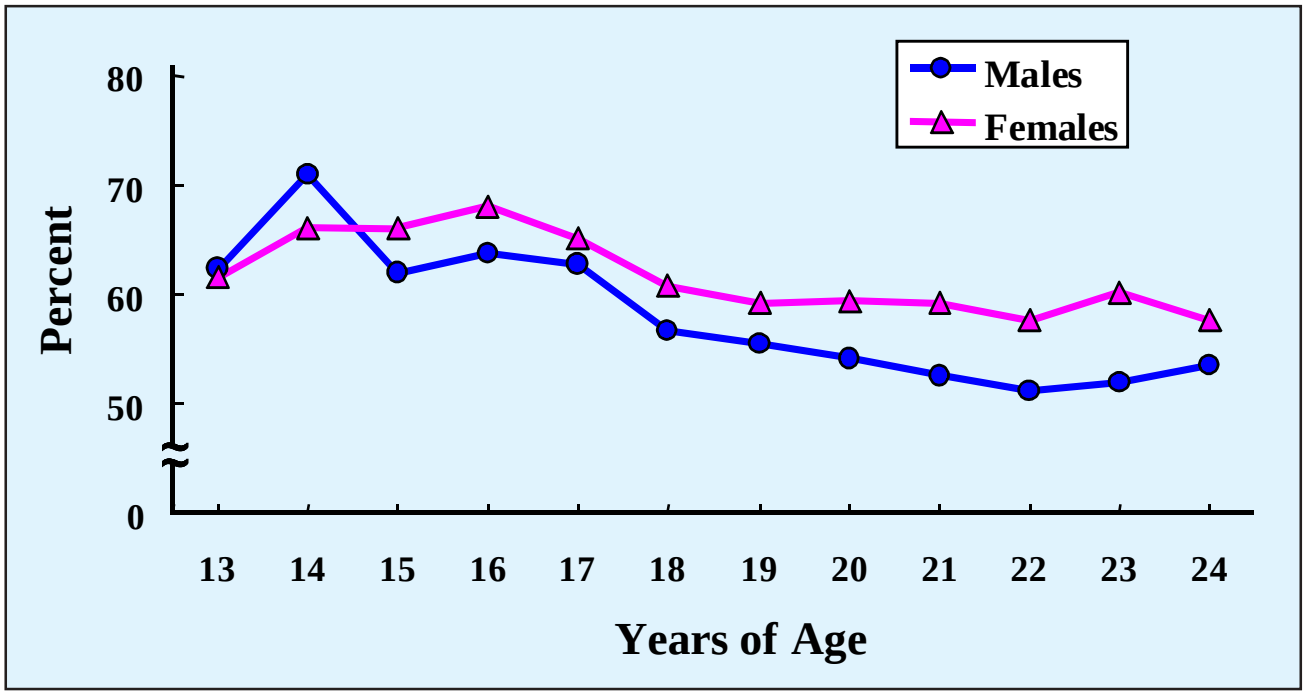

Figure 2. *Percentage of teens and young adults reported to be wearing seat belts in Motor Vehicle Crash Reports, by year of age, Rhode Island 2001*

Primary enforcement increases the use of seatbelts

Police enforcement of seatbelt laws is the main determinant of high levels of seatbelt use but the level of enforcement varies from state to state. Twenty state legislatures and the District of Columbia have passed primary seatbelt laws that give police officers the authority to cite motorists for failure to use seatbelts even when no other violation is present. Secondary seatbelt laws permit a citation only during a stop for some other violation. In a survey administered to adults in all 50 States, 85.3% of respondents who reside in states with primary seatbelt laws report that they wear seatbelts compared with 74.4% of residents of states with secondary seatbelt laws.[5] Observational studies provide similar results, with 11 percentage points difference between the proportion of motorists wearing seatbelts in states where seatbelt laws call for primary enforcement compared with those in states without such laws.[5]

Table 1. NHTSA Recommendations *versus* Rhode Island Law

NHTSA Recommendation	RI Law	RI Enforcement
Children < 7 restrained in back seat	Children < 7 restrained in back seat	Primary*
Children 7 – 12 belted in back seat	Children 7 – 12 belted in	Primary*
Occupants 13+ belted in	Occupants 13+ belted in	Secondary*

N.B. Occupants of a vehicle driven by a young person holding a limited instruction permit or limited license are also subject to primary enforcement in Rhode Island.
*** See text**.

Rhode Island CODES has made research efforts to improve highway safety

The National Highway Traffic Safety Administration (NHTSA) funds the RI Department of Health, Office of Health Statistics to participate in the Crash Outcome Data Evaluation System (CODES). CODES projects are active in over twenty-five states. The RI CODES project links records from several State data sources to measure the outcomes of motor vehicle crashes:

- Crash reports completed by police officers and processed by the Department of Transportation;
- Ambulance run reports submitted to the RIDOH, Office of Emergency Medical Services (EMS); and
- Hospital Discharge Data lists records of all acute care hospital admissions in Rhode Island in quarterly submission to the Office of Health Statistics

The analyses of crash outcomes by seatbelt use are based on CODES record linkage methods with support from NHTSA Cooperative Agreement No. DTNH22-02-H-17219. The analysis for this report was performed by Ted Donnelly, epidemiologist, TedD@doh.state.ri.us (401)222-5142.

References

1. CDC. Motor-Vehicle Safety: A 20th Century Public Health Achievement. JAMA 281;21:2080-2082.
2. CDC. Web-based Injury Statistics Query and Reporting System (WIQARS). U.S. Department of Health and Human Services, CDC, National Center for Injury Prevention and Control, 2002. Available at http://www.cdc.gov/ncipc/wisqars.
3. U.S. Department of Health and Human Services. Healthy People 2010, 2nd Ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.
4. Rhode Island Department of Health. Healthy Rhode Islanders 2010: Objectives and Targets. Available at http://www.health.ri.gov/chic/healthypeople/hri2010targets.pdf.
5. CDC. Impact of Primary Laws on Adult Use of Safety Belts – United States, 2002. MMWR; 53(12): 257-260.